SATURDAY, SEPTEMBER 5, 1874.

ORIGINAL COMMUNICATIONS.

AN INVESTIGATION INTO THE ACTION OF VERATRUM VIRIDE UPON THE CIRCULATION.

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PART I.—VERATROIDIA.

(Concluded from page 756.)

Section C.—Action on the Vaso-Motor System.

FROM the evidence which has already been brought forward, it is very plain that veratroidia exerts a powerful influence upon the heart and its nerve-supply. The question as to its influence upon the vaso-motor nervous system is a separate one, but its answer is rendered more difficult by the cardiac action of the drug. There are evidently three or four sets of experiments, by the comparison of whose results light may be thrown upon the vaso-motor action of the alkaloid. First, experiments in which the drug is given to the uninjured animal, artificial respiration being maintained to avoid the influence of the altered breathing; second, experiments in which the heart is separated from the inhibitory centres; third, those in which vaso-motor paralysis is induced by section of the spine; fourth, those in which both the pneumogastrics and spine are cut.

To the first of these classes belong Experiments V., VI., and VII. A reference to them will show that the arterial pressure falls very decidedly under the influence of the drug. The mere reduction in the number of the pulse will in a measure account for this fall, but on examining closely the record of Experiment VII. it will be noticed that although the pulse was at first greatly reduced in number, yet afterwards the rate of the cardiac pulsations rose nearly to the pristine point, although the pressure was a good deal less than half what it was originally. The conclusion is logically inevitable that in large amounts veratroidia either weakens the cardiac muscles, or produces vaso-motor paralysis, or does both. In regard to its action in small doses, these experiments bear no evidence.

In order to decide the influence of the drug upon the arterial pressure after division of the pneumogastrics, the following experiments were instituted:

Experiment XXVI.—A stout terrier. Artificial respiration; woorari in just sufficient quantity to quiet.

TIME.	DOSE.	PRESSURE.	REMARKS.
0 m.		85–95	
15 "		85–95	Cut the pneumogastrics.
16 "		120–130	
30 "	gr. 1-40	65–75	Injected into the peritoneal cavity.
34 "		65–75	
39 "	gr. 1-40	60–70	Injected into the peritoneal cavity.
53 "	gr. 1-40	45–55	Injected into the femoral vein.
53⅓ "		30	
54 "		50–60	
60 "		35–40	
65 "		30–35	

Experiment XXVII.—A stout cur. Pneumogastrics cut twenty-six minutes before the first note.

TIME.	DOSE.	PRESSURE.	REMARKS.
0 m.		140–145	
3 "		145–150	
5 "		140–145	
39 "		137–140	
50 "	gr. 1-40		Injected into femoral vein.
52 "	gr. 1-20		Injected in vein. Owing to an accident, doubtful how much of these two injections entered the circulation.
56 "		100–105	
59 "		110–112	
64 "	gr. 1-20	110–115	Into femoral vein.
78 "		120–140	Artificial respiration imperfect.
79½ "		75–85	Artificial respiration very active.
80½ "		90–95	
81½ "		50–60	
82 "		90–95	Artificial respiration imperfect.
82½ "			Artificial respiration ceased.
83 "		170–175	Artificial respiration renewed.
83½ "		100–103	
84 "		80–85	

These two experiments certainly show that, in full dose, veratroidia is capable of lowering the arterial pressure after section of the pneumogastrics, and also that small doses have but very slight effect under these circumstances.

Experiment XXVII. shows that this depression of the circulation is not due to actual paralysis. For at the eighty-second minute, when the arterial pressure was less than two-thirds its original amount, the carbonic acid which accumulated in the half-minute during which artificial respiration was interrupted was able nearly to double the pressure, driving the mercury far above its original point. This fact seems to indicate that the fall of pressure was not due to a vaso-motor paralysis, but to a sedative action on the cardiac muscle,—a sedative action which was soon overcome by the intense stimulation of the carbonic acid. Be this as it may, it is evident that if the fall of pressure be due solely to vaso-motor paralysis, it ought not to occur after division of the cord. To test this, the following experiments were performed:

Experiment XXVIII.—Dog.

TIME.	DOSE.	PULSE.	PRESSURE.	REMARKS.
				Spine cut in upper dorsal region. Artificial respiration applied.
0 m.		116	90–105	This is twenty-two minutes after cutting the spine.
6 "		120	75–80	Under more active artificial respiration.
8 "			95–100	Less active artificial respiration.
9 "			80–85	Pneumogastrics cut.
12 "		120	65–70	
14 "			75–80	A current, at first mild and then intense, applied to freshly-exposed crural nerve, for a minute and a half. No effect on the arterial pressure.
20 "		112	65–75	
26 "	gr. 1-20	118	60–65	Into femoral vein.
27 "			45–55	
28 "	gr. 1-20	120	55–65	Pressure sometimes rising to seventy. It is not certain how much of these last two injections reached the circulation.
31 "		120	45–65	
32 "		100	40–45	Under very active artificial respiration.
33 "		100	45–50	
35 "			45–50	

TIME.	DOSE.	PULSE.	PRESSURE.	REMARKS.
38 m.		108	35-40	
43 "		116		The tube has been put into carotid.
44 "		120	25-30	
46 "			210	Under galvanic current applied to the spine. There was a general intense spasm of all the muscles, but the pressure did not fall at once, when the current was broken, and the muscles became relaxed.
47¼ "		200	180	A minute has elapsed since current was taken off.
47¾ "			110-115	
49 "			170	Caused by the passage of a current through the body of the dog, producing violent muscular spasms. The pressure fell instantly when current was broken. This was repeated several times, with same result.

Experiment XXIX.—A large terrier cur. Cord cut in extreme upper dorsal region.

TIME.	DOSE.	PULSE.	PRESSURE.	REMARKS.
0 m.				Par vagum cut.
12 "		176	85-90	
13 "	gr. 1-10			Injected into femoral vein. Artificial respiration.
14 "			65-75	
16 "		170	60-70	
22 "	gr. 1-10		50-60	Into femoral vein.
23 "			55-65	
24 "			55-70	
31 "		176	45-48	
40 "		174	40-43	
45 "	gr. 1-10		30-35	Into femoral vein.
46 "		176	30-35	
47½ "		176	35-40	
56 "		176	40-41	
58 "			30-35	
65 "			60-65	
65½ "	gr. 1-6			Into jugular. Dropped a few seconds after injection to fifty at one bound, and rose again to seventy.
69 "	gr. 1-6		90-105	Into jugular. Fell as before to sixty.
70 "		200	60-65	
72 "			70-75	
73 "		184	85-90	Another injection of one-fourth grain into jugular was followed by a fall of the arterial pressure to nothing and cessation of pulsation. The heart refused to react to galvanism.

Experiment XXX.—A large cur dog. Veratroidia impure. Spine cut in the lower cervical or extreme upper dorsal region.

TIME.	DOSE.	PULSE.	PRESSURE.	REMARKS.
0 m.		136	85-93	
14 "	gr. 1-30		65-70	Injected into femoral vein.
28 "				Par vagum cut.
31 "	gr. 1-10	168	50-60	Into femoral vein.
34 "		162	50-60	
36 "			45-50	Lost some blood.
47 "	gr. 1-10	152	30-35	Into femoral vein.
48 "		128	30-35	
60 "		160	30-35	
61 "	gr. 1		30-35	
61½ "			50-55	
63 "		172	70-75, going to 80.	
64 "			75-85	
65 "		188	65-75	
66 "			65-70	
67 "	gr. ½			Into femoral.
68 "			55-65	
69 "	gr. ½	186	55-65	
69½ "			30-35	
70 "	gr. ½			
70½ "			50-55	Mercury then dropped at once to zero. The heart immediately afterwards at the autopsy was found incapable of responding to stimuli.

In studying these experiments, it will be perceived that in the first the arterial pressure under the influence of the poison fell very steadily and very decidedly up to the time when galvanism was applied to the spine, and the experiment, so far as it affects the point now under discussion, was ended. The second and third of these experiments (XXIX., XXX.) are in accord in that the pressure for a long time fell with sufficient regularity, but after the exhibition of enormous doses of the drug rose again, the rise being in each instance coincident with an increase in the pulse-rate. The explanation of this phenomenon is difficult. Any defect in the artificial respiration will, under the circumstances present in the experiments, give rise to an increased arterial pressure, and the increase which occurred may possibly have had such origin. The probabilities would seem to be, however, that the secondary rise of pressure was really caused by the drug. As the exact position at which the spine was divided was, unfortunately, not noted, it is barely possible that the point of section was below the position at which the accelerators of the heart are given off, and that the increased pulse-rate was due to a stimulation of these accelerators, the increased pressure being the result of the increased frequency of the heart-beats. Be these things as they may, it is certainly a fair deduction from the record—first, that the fall of pressure produced by veratroidia is not caused solely by its vaso-motor action; and second, that a study of the arterial pressure indicates that when used in moderate doses the alkaloid has very little influence upon the vaso-motor nervous system. In order, however, to test this matter more accurately, other experiments have been performed. It is well known that when a sensitive nerve or even a portion of the skin is irritated in the rabbit, a very great rise of arterial pressure is produced. In the dog the result is less constant, and in some cases the pressure even falls. The cause of this is the very great power and sensitiveness of the cardiac inhibitory nerves in the dog, for as the result of this sensitiveness and power the heart is depressed so much by the pain as more or less to overbalance the effect of the vaso-motor spasm. This is shown by the fact that the rise of pressure is very marked when an afferent nerve is irritated *after* section of the pneumogastrics. The fact (see Exp. XXVIII.) that after section of the cord stimulation of a nerve is powerless to cause rise of pressure, shows that the latter is due to a vaso-motor spasm, and that the vaso-motor centres are placed above the cord.

In order to test the influence of veratroidia upon the vaso-motor centres, the following experiments in conformity with the above-mentioned facts were performed:

Experiment XXXI.—A stout bull-terrier pup.

TIME.	DOSE.	PRESSURE.	REMARKS.
0 m.	gr. 1-40		Injected into femoral vein.
25 "			Cut the pneumogastrics.
29 "			

TIME.	DOSE.	PRESSURE.	REMARKS.
30 m.		35-40	
30¼ "		50-55	Rise due to momentary application of a mild current to crural nerve.
31 "		30-35	
32 "	gr. 1-40	30-35	Injected into femoral vein.
46 "		35-40	
47 "			Strong current applied to a freshly-dissected crural nerve.
48 "		110	Current broken.
49 "		35-40	
71 "	gr. 1-40		
80 "		25-29	
81½ "		35-38	The slight rise only effect of a very strong current applied to a large, freshly-dissected nerve.
84 "			Artificial respiration stopped.
84¾ "		135-195	

Experiment XXXII.—A stout terrier. Artificial respiration, and woorari, in quantity sufficient to keep dog quiet and nearly to suspend respiration for a time, injected into the veins.

TIME.	DOSE.	PRESSURE.	REMARKS.
0 m.			Pneumogastrics cut.
5 "		90-100	Strong current applied to crural nerve.
5½ "		120-130	
15 "	gr. 1-40	65-75	Injected into peritoneal cavity.
24 "	gr. 1-40	60-70	Injected into peritoneal cavity.
38 "	gr. 1-40	45-55	Injected into femoral vein.
65 "		30-35	Strong current applied to crural nerve.
66 "		30-40	

These two experiments show that whilst the arterial pressure does rise when an afferent nerve is stimulated in a dog with divided pneumogastrics, after a dose sufficient gravely to imperil life, yet when artificial respiration is performed and very large doses of the drug exhibited, the arterial pressure does not respond to the irritation of a sensitive nerve: *i.e.*, small doses of veratroidia do not affect very decidedly the vaso-motor system, but large amounts do exert a directly depressing influence upon these centres.

In concluding this investigation upon the action of veratroidia on the circulation, the results arrived at may be summed up in a few words.

The action of this alkaloid upon the circulation is altogether subordinate to its influence upon the respiration.

In minute doses it stimulates the cardiac inhibitory nerves or nerve-centres, but when given in sufficiently large doses it finally paralyzes the peripheral inhibitory cardiac nerves.

It exerts some action upon the heart-muscle or the contained ganglia; this action is probably a sedative one, but it is very feeble, and is only distinctly perceptible when the drug is precipitated at once upon the heart, or when the dose given is much above that required to arrest respiration. To kill the heart-muscle very large amounts are required.

Upon the vaso-motor system veratroidia acts as a depressant, but its influence is feeble, much less intense than its action upon the pneumogastrics. When artificial respiration is maintained, it can be given in such doses as to paralyze the vaso-motor centres.

(To be continued.)

THE METHODS OF PERFORMING ELECTROLYSIS IN ANEURISMS, NÆVI, AND OTHER BENIGN TUMORS.

BY GEORGE M. BEARD, M.D.

THE success of the electrolytic procedure in aneurism, varicose veins, nævi, cystic and other benign tumors, depends on the method used. One may fail by one process and succeed by another, just as in any other surgical operation. The tendency has been to be satisfied with the mere employment of galvano-puncture, without regard to the method, and to accept the results, whether favorable or unfavorable, as serving to settle the question of the value or uselessness of electricity in surgery.

In electrolysis everything depends on the method; and with the same method, skill, care, and thoroughness may succeed when awkwardness, carelessness, and inattention fail utterly. The failure of electrolysis in any form of tumor, benign or malignant, is not to be counted a reproach until we know the actual method used and the character of the operator.

The method of electrolysis of the base or working up the base, that I have employed in the treatment of malignant tumors, I have elsewhere* described in detail. I have here to speak only of ordinary electrolysis, where the needles, insulated or non-insulated, are plunged directly into the tumor.

The errors that have been and are continually made in electrolytic operations begin and end in ignorance or forgetfulness of the laws and facts of electro-physics and electro-physiology, and especially of the former. No one can be a scientific and successful electro-surgeon without also being more or less of an electro-physicist.

ANEURISMS.

In the treatment of aneurism, the great end sought is coagulation. A knowledge of the differential action of the poles in producing coagulation is essential to an intelligent use of electricity in treating aneurism. Coagulation takes place at both poles of the galvanic current; that at the positive pole being small, black, and hard, and that at the negative being larger, softer, and of a yellowish color.

Aneurisms may be treated with greater or less success, according to their size and position, the condition of their walls, and general health of the patient, by either of the poles, or by both combined.

The best method for the majority of cases, certainly for aneurisms of any considerable size, is to use both poles, and a large number of needles that are insulated so that the current will not act on the walls of the aneurism. In the treatment of aneurism, especially, careful insulation is needed. The advantage of using both poles is twofold.

First, a double clot is formed, one at the positive and the other at the negative pole. Although the

* Archives of Electrology and Neurology, May, 1874.

negative clot is soft and yielding, still, in combination with the positive clot, it is of decided service in closing the aneurism; and, so far as I can ascertain, there is no evidence that embolism is ever caused thereby.

Secondly, the resistance is greatly reduced by placing needles connected with both poles in the sac, so that the electrolytic action is very much more effective than when one pole is placed on the surface of the body. The blood is the portion of the body that best conducts electricity; and when both poles are inside of the sac and near to each other, as of course they must be, a mild current will cause vigorous electrolysis. On the other hand, if one pole be applied by a wet sponge to some indifferent point on the surface, a strong current is needed to produce a clot, and a long operation; and, unless the sponge on the surface is occasionally moved, it would cause great pain; and if the patient is under an anæsthetic, a blister may be caused. As the negative pole is more painful than the positive when the positive alone is in the aneurism, the negative on the surface may be very uncomfortable even with a feeble current.

In the electrolytic treatment of aneurism, as in so many other electrical applications, it is an advantage to have a rheostat, so as gradually to let the current on or off without shock.

STATISTICS OF ANEURISM TREATED BY ELECTRICITY.

The published statistics of aneurism treated by electricity are of little or no value, and for two reasons. 1. They represent experiments made, in a large percentage of the cases, by those who are but little familiar with electro-physics or electro-physiology. Quite frequently the poles have been confounded, so that it is impossible to tell whether the positive or negative is used, and from many of the accounts it is impossible to tell even approximately the strength of current used.

2. The statistics are derived in part, at least, from cases that are reported too early. The temporary relief that results from the coagulum formed in the aneurism by the chemical action of the current has been interpreted as indicating a perfect recovery.

Some of the cases hastily reported as cured probably died soon after, if not before the account of their recovery was fully in print.

For these reasons I omit all the statistics that have appeared on this subject, preferring the general average opinion, so far as it can be obtained, of those surgeons and electro-therapeutists who are best qualified to speak on this subject.

My general conclusion, derived from many experiments on animals, from actual experience, and from a comparison of the various observations that have been made on the subject, is, that for those varieties of aneurism—such as the thoracic, abdominal, etc.—that cannot well be treated by the old methods, and in some cases for those that are accessible to other treatment, galvano-puncture, rightly performed, may be of great service in relieving the accompanying symptoms, and in prolonging life, and in some cases may effect a perfect and permanent cure.

VARICOSE VEINS.

Varicose veins were treated by galvano-puncture, after the manner of aneurisms, many years ago. For the treatment of varicose veins the positive pole would probably be better than the negative, or than both together, and for the reasons above given. The space within the enlarged vein is comparatively small, and the small clot made by the positive pole ought to be sufficient to obstruct the *flow* of blood. The positive clot would have the advantage of firmness, and embolism would be less likely to follow than after the use of the negative pole.

NÆVI—ERECTILE TUMORS—ANGEIOMATA—MOTHERS' MARKS.

This variety of tumors may be treated by the ordinary method of electrolysis, with a good probability of success, provided the conditions of success are skilfully observed.

It is first of all necessary to understand that to cure all forms of erectile tumors electrolytically without leaving any scar or trace is simply impossible. In many cases, and notably in those of larger size, and which are partly cutaneous and partly subcutaneous, sooner or later destruction of tissue is requisite to bring about a cure; and destruction of tissue after electrolysis, like destruction of tissue after the use of other agents, is followed by cicatrization.

When the nævus is small and superficial, then a mild electrolytic operation may be followed by a shrinking of the tumor and a rapid and permanent absorption of the débris without any scar; but such cases can hardly be said to constitute the majority. The scars following the electrolytic treatment of nævi may, however, rapidly disappear; at least, the little patient may in time entirely outgrow them.

It is necessary to be understood, in the second place, that the electrolytic operations for nævi, as for other kinds of morbid growths, are usually sufficiently painful to require some form of local or general anæsthesia. It is almost absolutely safe to give ether to young children; and the operation, even though it be but very short and but little painful, can be conducted far more successfully when the child is anæsthetized than when it is not. With adults, and sometimes with children, local anæsthesia by ether-spray is sufficient; but it is generally inferior to general anæsthesia. The struggles of the child to get free, its terror at the sight of the instruments, can all be saved by a carefully-administered anæsthetic.

The details of the operation differ with the size and character of the tumor. Success has followed the use of both poles in the tumor, or only one, while the connection is made by a sponge electrode on some indifferent point. If the tumor be small, and but one pole is used, it is better that it should be the positive, since the clot found at the positive pole, though small, is hard and firm. If the tumor be large, needles connected with both poles may be used. Whether one or more needles are to be used depends on the size of the tumor; but gen-

erally one needle connected with each pole is sufficient. If many needles are used, it is difficult to manage them; and some may fall out, and thus disturb the operation. It is better, as a rule, to take out the needle at different stages, and insert it in various parts, until the entire growth is acted upon. I have sometimes found it of advantage to reverse the current during the operation, so that all portions of the tumor may be acted on by both poles. Insulation of the needles is only required in the case of entirely subcutaneous tumors—where, as in the case of aneurism, it is desired to produce a coagulum (which may be slowly absorbed) without injury to the skin.

The length of the operation may range between five and twenty-five minutes, according to the strength of current used, the size of the needles, and the size of the tumor.

The great point in all electrolytic operations for nævi *is to do just enough without doing too much.* If the operation be not reasonably thorough, absorption will not take place, or the tumor may recur. If the operation be too extensive or prolonged, the destruction of tissue may be greater than is needed, and the subsequent cicatrization may amount to at least a temporary deformity. For very large and semi-subcutaneous nævi, that exhibit a tendency to spread in all directions, it is necessary to place the needles at or near the base of the tumor, and in the surrounding tissue, among the enlarging and tortuous vessels, in a manner somewhat resembling the method of electrolyzing the base of malignant tumors. If such tumors are treated timidly, no good result will come, and the operation may be several times repeated without satisfaction.

The advantages of the electrolytic procedure in nævi are these: 1. In small and superficial tumors the cure may be effected with little or no scar. On the face and other exposed parts of the body, this advantage is very great. 2. In the large nævi, and those which are partially or entirely subcutaneous, the liability of recurrence would be less, and probably the extent of the cicatrization would be less, than after the ordinary method of treating these growths.

GOITRES.

Goitres are to be treated by ordinary electrolysis with sharp, bayonet-shaped needles, which may be either insulated or non-insulated. Needles that are smoothly insulated can be inserted through the skin of the neck without very much more difficulty than non-insulated needles. But if the insulation be roughly put on, the difficulty in insertion may be very great. An advantage of non-insulated needles is that by the action which takes place in the skin around it the needle becomes loosened at the negative pole, and so can be pushed in still farther without difficulty. For goitres of all kinds, the negative pole is much preferable to the positive pole, and for the same reasons as in cystic and fibroid tumors. It is better not to connect any needle with the positive pole, but to complete the circuit by a sponge electrode applied over the surface of the tumor. There is no danger in inserting a needle even into a small goitre to a considerable depth, say one or two inches. By great carelessness it would, I suppose, be possible to wound the carotid artery. I do not usually employ an anæsthetic in the operations on the neck. I find that the ether-spray, or the local application of a mixture of carbolic acid and ether, prevents, to a considerable extent, the pain of the introduction, which the patient much dreads, and which is really more severe than the pain of the electrolysis after the needles are in position.

In a few cases I have observed that the needles, when inserted in a goitre, cause, by reflex action, pain in the forehead; in other cases, nausea and a tendency to faintness are observed. The majority of patients do not fear an operation of more than from five to fifteen minutes, which may be repeated two or three times a week.

This purely electrolytic treatment may be varied by external galvanization and faradization, with strong currents.

There is no question that external galvanization and faradization with strong currents, both steady and interrupted, will cause a considerable reduction in the size of goitres; and even when these methods do not cause any perceptible diminution, they at least relieve the sense of pressure, the heaviness, and the sense of suffocation or of choking that goitres often cause. External electrization alone is not so satisfactory as electrolysis with needles.

The prognosis of goitre under electrical processes varies with the nature of the tumor. Those which are small and soft may disappear entirely and permanently. Those that are large, provided they are not too hard, may also entirely disappear. The cystic varieties also give a good prognosis. Those that are both very large and very hard may diminish a certain percentage, but they do not entirely disappear. The best method of estimating the results of treatment is to take measurements of the neck. Almost all goitres will go down more or less, and usually at the outset of the treatment. Afterwards they recede more and more slowly; and, even in those cases where the cure is complete, the last quarter will require more treatment than the first three quarters. This is true of all solid growths that are treated by electricity.

CYSTIC TUMORS.

Benign cystic tumors may be successfully treated by the ordinary method of electrolysis. I have treated a number of cases, small and large, and with excellent results. The object of the electrolytic procedure in benign cystics is, of course, very different from the object of the same procedure in nævi. The therapeutical action of the current on cystics is somewhat complex. 1. The fluid is decomposed. The gaseous products of this decomposition sometimes escape through the holes made by the needles. 2. The walls of the cyst are stimulated, so that the fluid is absorbed, and thus the tumor is caused to shrink. This is, in fact, the *rationale* of electrolysis in hydrocele. 3. Decomposition of the walls of the cysts. This takes place, of course, only when uninsulated needles are used. When

the needles are insulated near to the end, the walls of the cyst are not acted on. 4. Evacuation of the fluid contents of the cyst without decomposition. This result may follow puncture of any kind, even when no electricity is used. It is more likely to follow electrolysis with the negative needle, for the reason that the needle, when not insulated, acts on the walls of the cyst and enlarges the opening made by the needle.

In operating on cystic tumors by electrolysis, the best procedure is to insert needles connected with both poles. The positive needle may be kept fixed, while the negative is worked in various directions, so as to act upon all the inner surface of the cyst, and also to enlarge somewhat the hole made by the needle in the walls of the tumor, and thus allow free exit of the fluid or gases.

Large, long, cutting needles are usually preferable when the tumor is large; but for small tumors almost any kind of needle will answer.

Hydrocele is treated electrically on the same principle as cystic tumors. The mere evacuation of the fluid, or the electrolysis of it, accomplishes but little unless the secreting surface is acted on by the current.

FIBROIDS.

Fibroids are usually hard, and therefore slow to decompose under electricity. This is true of all fibroids, wherever situated,—in the neck or any portion of the periphery, or in the uterus. Inasmuch as they are not usually malignant, the method of electrolyzing the base is not needed. They are to be treated by ordinary electrolysis, needles connected with both poles being inserted in the tumor. The needles may be insulated or non-insulated, according to the situation of the tumor.

The behavior of fibroids after electrolysis is not generally satisfactory: the amount of decomposition, on account of the density and comparative dryness of the tissue, is but slight, and the subsequent shrinkage and atrophy are not so marked as in goitre or cystic growths.

If a current of sufficient strength be used, the patient being anæsthetized, suppuration may be excited, and, as a result of the destruction and loss of tissue, the tumor may become somewhat smaller.

Fibroids of the uterus are of sufficient importance to be specially considered. They may be treated electrolytically, either through the vagina or through the abdominal walls, according to the position.

The danger of creating peritonitis by thrusting needles through the abdominal walls is but slight, and if the needles are well insulated by rubber there is really no danger. The insulated part should, of course, go beyond the peritoneum.

Dr. Kimball, of Lowell, reports excellent results from treating fibroids in this way. My own observations in this direction have not been of the most encouraging nature. I have never seen a large and hard fibroid tumor disappear under electrolysis. Relief of pain, of neuralgia, of anæsthesia, and of many of the other attendant symptoms, I have many times obtained, but never a complete or approximate dispersion of the tumor.

LIPOMATA (FATTY TUMORS).

Ordinary surgical treatment with the knife is so successful for fatty tumors that electrolysis would hardly be indicated, even if it could accomplish as much and as easily as the knife. Fatty tumors are, of course, benign, and when operated on do not recur. Fat decomposes slowly and with difficulty, and is not subsequently absorbed, at least to any marked degree. I have experimented on a number of cases of fatty tumors, small and large; but, although some slight reduction in size can be gained, the results have never been satisfactory.

WHISKY AS AN ANTISEPTIC DRESSING.

BY J. L. SUESSEROTT, M.D.

IN fulfilment of a promise made to Prof. Wm. Pancoast at the meeting of the Pennsylvania Medical Society at Carlisle in June of last year, I desire to place on record my testimony as to the value of the above-named agent. And, lest I might be misunderstood as claiming priority in its use, I will state that in the *Glasgow Medical Journal* for February, 1870, Dr. D. Blair recommended the use of whisky as a surgical application, and gave his method of using it, as follows:

"To remove the foreign substances or clotted blood, the wound is first washed thoroughly with strong whisky; it is then closed with stitches if necessary, again bathed with whisky, and covered with a rag and bandage both saturated with the same fluid; and, finally, all is enveloped in gutta-percha tissue or oiled silk, and directions given to the attendants to wet the bandage from time to time with the spirits. As a rule, the first dressing is not disturbed for three or four days, and afterwards it is changed every day, or every second day, according to circumstances. The principal thing to be attended to is to have the bandage kept wet with the whisky,—but not *too wet*, or it will impede the progress of the cure. I have never seen *much* sloughing, and I have not once seen erysipelas occur in wounds treated in this way; probably because septic germs, if they exist at all, are not numerous in our hyperborean regions."

After giving the history of two or three cases, the doctor adds, "I have also used whisky as an application to bed-sores. When fever occurs epidemically in country districts and villages, especially in the Highlands, it generally causes a panic among the inhabitants. The dread of contagion is so great that occasionally no one will venture to undertake the duties of nurse. Under these circumstances bed-sores are of frequent occurrence. I have seen more than one case in which the os sacrum and coccyx were exposed from sloughing in typhus, and yet the patients recovered. The bed-sores were treated with linseed and oat-meal poultices, mixed with whisky, until the slough separated; then whisky lotions were applied.

"In cases of chronic and scrofulous abscess, I have used whisky as an injection, and find that it checks the discharges and hastens the cure. In a case of

scrofulous abscess of the hip-joint, I attribute the recovery of my patient to its having been used in this way. The pain and hectic before and for some time after the abscess was opened caused so much prostration that I had slight hopes of my patient's recovery. I persisted, however, in using the injection two or three times daily, bathed the whole limb often with spirits, and kept it wrapped in cotton-wadding and a bandage. The stomach for a time would not tolerate solid food of any kind, and even beef-tea provoked nausea. Notwithstanding, in an incredibly short time my patient rallied, and I had the pleasure of seeing him walk well, although the joint continued somewhat stiff.

"In a singular case of abscess situated beneath the muscles in front of the abdomen, which opened at the umbilicus, I was highly pleased with the result gained by these injections. The discharge obstinately continued, although I perseveringly applied for a considerable time poultices and lotions of different kinds. At last I resolved to inject with strong spirits, but, from the peculiar situation of the abscess, and fearing inflammation might supervene, I used it very cautiously at first; but, no unfavorable symptoms having followed the first application, by degrees it was used more freely—two or three syringefuls at a time repeated twice or thrice daily. In a few days there was a marked improvement, and soon the discharge ceased completely, and the patient is now well."

I trust I may be pardoned for quoting so largely from Dr. Blair, but in no words of mine could I more fully convey the results of my own experience or give stronger testimony as to the value of what to me would now be an almost indispensable agent.

In my opinion, the antiseptic properties of whisky are not all the virtues that it possesses. The gentle stimulation to the granulations on the one hand, and its cooling action by evaporation on the other, undoubtedly aid in a material degree in bringing about repair. Dr. Blair neglected to state that it is only the first application that is objected to or is in any appreciable degree felt by the patient. If the compress or bandage is kept moist with the spirits, a very grateful feeling is produced; and in cases where even considerable laceration has occurred, healing by *first intention* may be confidently expected. I could recount numerous cases that would bear me out in this assertion, but will let a few suffice.

Charles E., aged 60 years, a carpenter, about two years ago had his right fore-arm terribly lacerated by coming in contact with the revolving head of a planing-machine. The integuments and muscles of the back part of the fore-arm were torn in shreds; the limb was placed on a splint, the torn tissues were restored as nearly as possible to their places, kept *in situ* by isinglass-plaster, and supported by compresses saturated with strong whisky. In two weeks from the time of the accident, no suppuration having taken place, the splint was removed and my patient was at work. About a year after this occurrence the same patient had the back of his left hand thrown into the same machine. The result was that the articular ends of the second and third phalanges of three of his fingers were entirely knocked out, leaving the fingers hanging by the flexor tendons. Deeming it impossible to save more than a stump of the hand, I was about to remove the dangling digits, against which procedure the patient strongly protested. Sympathizing with the now twice unfortunate man, and desiring to let the realization of the full extent of his maimed condition break upon him gradually, I procured three small splints, upon which I carefully laid the, as I was fully persuaded, lifeless fingers, secured them with isinglass-plaster, and placed the whole hand upon a heavy straw-board splint, with the full assurance, in my own mind, that even with the deodorizing effect of whisky, by the next day my very hopeful patient would be satisfied of the propriety of their removal. The part, or, I might more truly say, the whole hand, was kept saturated with my favorite fluid for external use, and, much to my surprise and gratification, on the following day I found the circulation re-established. The fingers were kept on small splints to prevent too much shortening. Granulations repaired the lost soft tissues almost entirely, and, the metacarpo-phalangeal articulation not having been injured, I had the extreme pleasure, at the end of four weeks, to see my patient, who, by the way, is a man of strong nerve, hard at work, with a very useful hand.

About the time of the first accident to this patient, Charlie W., a lad of about 12 years of age, ran into a mowing-machine. His left foot was cut off just at the top of his shoe, and the right one, it having been elevated in the act of running, was taken off through the tarsal bones. Assisted by Dr. E. N. Sensery, of this place, I shortened the bones of the left leg so as to procure sufficient covering, but we both concluded that by the removal of the cuboid bone of the right one we might hope to save the heel, and make the limb more useful; leaving it as in Chopart's or Symes's amputation. Even after the use of strong ligatures and contracting bands, we were not able to bring the tissues together, but were compelled to leave a surface of two and a half or three inches entirely exposed. Into this we packed patent lint, well saturated with whisky, satisfied that, with some suppuration, we might hope for a full repair of the parts. Suffice it to say that in an incredibly short space of time the parts were healed, without any want of covering to the stumps, and with the loss of not more than *one fluidounce of pus from both limbs.* Of this latter fact we were confident, as we did all the dressing ourselves.

I could report a half-dozen cases of equally interesting character, but have already trespassed too much on your space.

In conclusion, I would say that Dr. Blair's recommendation of this agent to the profession does not in the least refute the assertion of the venerable Solomon, that "There is nothing new under the sun;" for if we call to recollection the wonderful effects of the application of whisky and lily-leaves, and whisky and balsam-apple, by our mothers and grandmothers, we are forced to the conclusion that they, and other more ancient dames, from whom they learned the art, were unconsciously using an article of no little value, but that the credit was given to substances which only served as spongy compresses to retain the fluid. I have never used Dr. Hewson's dry-earth dressing; not that I think it has no virtue, for the high standing in the profession of him who recommends it is sufficient to satisfy me that it is valuable, but where one so much more convenient and pleasant to use is at hand, I would seek for nothing else.

CHAMBERSBURG, PA.

TRANSLATIONS.

PHYSIOLOGICAL RESEARCHES ON DIGESTION IN THE LARGE INTESTINE OF MAN.—Drs. Czerny and Latschenberger communicate to *Virchow's Archiv*, vol. lx., 1874, an account of certain experiments performed by them on a patient suffering from an abnormal anus, situated in the right inguinal region, on a level with the crest of the ilium. The rectum was completely separated from the rest of the intestine, so that nutritious enemata could be introduced and withdrawn without any danger of admixture. This condition had resulted from a strangulated hernia, which, having been operated upon, left behind three mucous orifices, separated in such a manner that the internal orifice corresponding to the termination of the large intestine could not receive any trace of fecal matter.

The portion of intestine serving for the experiments, measured from the anus with the aid of a flexible tube, was about eleven inches in length. It was directed away from the fistula, then backwards to the extent of about three inches, then directly down. This last portion, of about eight inches in length, was destined to serve for the experimental study of absorption.

The mucous membrane was completely insensible, and the prick of a needle failed to produce contraction. The use of the induced current was not followed by any effect, but on applying the continuous current lively contractions were produced, which lasted as long as the electrodes continued in contact with the mucous membrane. On introducing the finger into the orifice of the intestine, the latter could be observed to contract strongly, and the mucous membrane rapidly assumed a red color and poured out an abundant secretion.

Character of the Intestinal Juice.—The drops of pure intestinal juice are slightly opalescent, and enclose small masses of protoplasm, occasionally containing drops and globules of oily matter. On any irritation whatever being applied, epithelium becomes mixed with the intestinal juice, which grows turbid. The reaction of the latter, and of the mucus generally, is decidedly alkaline.

Method of Experiment.—The experiments on digestion were made either with the intestinal juice collected, and consequently outside of the intestinal tube, or within the latter itself. In the first case, the albuminous substances, the starch or fat, were placed, together with a certain quantity of the juice, in small test-glasses, the mouths of which were closed with cotton. They were then exposed for two or three hours to a temperature of 95° F.

The experiments on digestion and absorption in the large intestine were made as follows:

The various liquids were introduced into the intestine by means of a caoutchouc tube, one end of which was inserted into the fistulous orifice. When the experiment was terminated, the liquids were removed by the anus. In order to avoid all error, the solutions used were divided into four parts, one of which was introduced every second hour by the same tube, and when the experiment was concluded a certain amount of liquid was allowed to pass through the intestine, in order to remove any matters which might remain. The experiments were made with albuminous solutions, with white of egg, emulsions of fat, and starch.

Experiments in Digestion.—Small morsels of coagulated white of egg, exposed during three hours to the action of intestinal juice at a temperature of 95° F., showed no alteration even when the fragments had been washed with a solution containing one-half per cent. chloride of sodium. Flakes of fibrin submitted to the same conditions underwent no alteration. Olive-oil, beaten up for a long time with the fresh juice, showed no sign of emulsification. Starch mixed with the juice and exposed whole hours to a temperature of 95° F. showed no trace of sugar. It should be remarked that the juice employed was procured from both the upper and the lower portion of the large intestine. A small bag of gauze filled with morsels of coagulated white of egg was placed in the intestine and allowed to remain there for two months. When removed at the end of that time, the fragments showed no sign of digestion, and were simply roughened a little on the exterior by the action of bacteriæ. From these experiments it was concluded that the action of the intestinal juice of the large intestine and of its mucus, so far as the digestion of coagulated or soluble albumen is concerned, is simply *nil.*

Experiments in Absorption.—To determine the capacity of the intestine for the absorption of water, about ʃiv were introduced every fifteen minutes for some hours into the portion under examination. The result showed an absorption of some ten or twelve drachms of water in the space of seven hours.

Experiments made with albumen demonstrated that in the normal condition albumen dissolved in water is absorbed as such by the large intestine. This absorption takes place more rapidly the longer the albuminous solution remains in contact with the intestine. If the latter is irritated by mechanical action or otherwise, absorption becomes hindered or completely arrested. Chloride of sodium hinders absorption, but this salt, even when the intestine has been irritated and general absorption has ceased, continues to be absorbed. Albumen as contained in white of egg is not in a condition to be absorbed without difficulty.

Experiments made upon fatty substances prove that the large intestine absorbs these when they are presented in an emulsified condition; the absolute quantity absorbed is proportioned to the concentration of the emulsion; while on the other hand the relative amount absorbed is proportioned to the length of time during which the fat remains in contact with the absorptive surfaces.

Experiments made with starch show that this substance is absorbed by the large intestine when in a jellied condition; but up to the present time it is impossible to determine whether its absorption takes place while in the form of starch itself, or after previous conversion into sugar.

Conclusions.—The large intestine in man absorbs albumen in solution, as such, as well as emulsions of fat. Starch in jelly is also absorbed, but whether as such or in the form of sugar is not known. Chloride of sodium possesses the property of interfering with absorption, or even checking it completely.—*Archives Générales*, July, 1874. A. V. H.

TRAUMATIC EMPHYSEMA.—H. Fischer (*Sammlung Klinische Vorträge*, 1874, No. 65).—Traumatic emphysema arises most frequently from injuries of the lungs, more rarely from aspiration of the external air through wounds and from degeneration of the tissues (spontaneous emphysema). When the lungs are injured there is no emphysema of the skin, or at least it is of but circumscribed extent, as is also the case when the external wound of the thorax corresponds directly with the wound of the lungs, when the wound itself is of sufficient calibre. If, however, the lungs are injured, and the cavity of the thorax is opened by a narrow oblique wound, or if the wound, through the action of muscular fibres, assumes an irregular form, or if it contain torn bits of tissue or foreign bodies, there arises an emphysema of the skin of more extended dimensions. In such cases, during the act of inspiration little or no air enters through the external wound, but a proportionately larger quantity passes through the wound of the lung. During

expiration the wound of the lung closes, and the air which has collected in the thorax is driven into the meshes of the connective tissue in the neighborhood of the long and irregular canal of the wound. Then, too, traumatic emphysema may be due to injuries of the lung when there is no external wound present; for instance, in cases of fractured ribs when a fragment of a rib perforates the pleura and wounds the lung. Frequently in cases of this character the wound of the lung becomes closed by clotted blood or adhesive inflammation, and then no emphysema is caused. When portions of the lung which are adherent are injured by fractured ribs, or if the injured lung is drawn back into the subcutaneous wound by the elasticity of the rib, traumatic emphysema ensues, but pneumothorax is wanting. Traumatic emphysema may arise after contusions of the lungs not attended by fracture of the ribs, or only be due to powerful compression of the lungs while the escape of the air through the trachea is impeded. In all cases of this kind, contusions and small ruptures are caused in the lung-tissue, and first occasion an intralobular emphysema, which gradually extends to the root of the lung, and finally passes upward in the trachea and makes its appearance in the neck. Traumatic emphysema can also arise in cases in which the thorax alone is opened, the lung not being injured, since the air which has made its entrance into the thoracic cavity can be forced by the expanding lung into the subcutaneous and intermuscular connective tissue. In these cases the emphysema is usually unimportant, since the pneumothorax soon becomes of such high degree that the entire side of the chest upon which the wound is becomes motionless, and consequently no more air is forced into the meshes of the connective tissue by the movements of inspiration. In a similar manner to that due to injuries of the lungs, traumatic emphysema arises also from wounds of the larynx. In wounds of the intestine, emphysema is of rarer occurrence, since the gases for the most part escape into the cavity of the abdomen, and it is usual to see this complication only when the fixed part of the large intestine is wounded upon its posterior aspect. It is more common to see emphysema after the so-called inward rupture of the intestine in consequence of disease, as in cases of strangulation followed by gangrene of the gut. On the head a form of emphysema is met with which is due to the passage of air from the pharynx into the cavum tympani, and thence through the pores of the mastoid process into the tissues of the scalp.

Emphysema of the eyelids occurs frequently in cases of fracture of the bones of the face, when the fractures extend into the nasal and frontal cavities. This form of emphysema may also occur after rupture of the lachrymal sac from violent expiratory efforts, and sometimes after gangrenous ulcers of the mouth following measles, wounds of the buccal mucous membrane, or extraction of teeth. Traumatic emphysema due to the aspiration of the outer air through wounds occurs but rarely. In this category belongs emphysema arising after rupture of the œsophagus, in cases of long narrow wounds, and in cases of tenotomy and complicated fractures. Fischer has observed spontaneous emphysema due to degeneration of the tissues in five cases of fractures and severe contusions in which there were extravasations of blood of large size. It is due to the escape of gases into the connective tissue from the extravasated blood. This driving out of the gases from the blood is favored by the acid reaction of the muscles, which is due to the bruising and tearing which they have undergone. The air which has collected in the connective tissue is finally absorbed by the blood-vessels; some of it, however, vanishing by the same way that it came. There are no difficulties attending the diagnosis of emphysema, but spontaneous emphysema is often confounded with gangrenous. In a majority of cases when due to trauma the occurrence of emphysema has no influence upon the prognosis, and no treatment is indicated. If increased dyspnœa, due to large quantities of air in the interstices of connective tissue, comes on, small punctures through the skin are advised. As a rule, however, cases of primitive emphysema do not require speedy operative interference, while the contrary practice is to be enforced in such as are gangrenous in their origin. W. A.

EXTIRPATION OF THE SCAPULA AND ARM.—Veit (*Inaug. Dissertation*) reports an operation of V. Langenbeck's, in which, in consequence of a round-cell sarcoma, starting from the head of the humerus and extending into the muscles of the thorax and the scapula, that bone and the arm were extirpated. The clavicle was first exposed by an oblique incision, and divided by a bone-forceps. By this procedure the subclavian artery was exposed; it was surrounded by a catgut ligature, and divided, as were also the subclavian vein and the brachial plexus of nerves. From the first incision, a second was then made to the lower angle of the scapula, the muscles dissected away, and finally a third incision was made through the axilla, meeting the second, and the scapula dissected out. The patient, a laborer, aged 17 years, reacted well at first, but died from a hemorrhage from the subclavian artery on the sixth day. At the autopsy it was found that the ligature had been applied close to the origin of the transversalis colli, so that the formation of a proper clot had not been possible. In the lungs were also found numerous metastatic deposits from the tumor. W. A.

SUBCUTANEOUS INJECTIONS OF AMMONIA IN MALIGNANT PUSTULE.—M. Collin read, at a recent meeting of the Académie de Médecine (*L'Abeille Méd.*, August 10, 1874), an account of certain experiments made by himself upon the action of this remedy. His conclusions may be briefly stated as follows: 1, ammonia can be borne in the veins in strong doses (perhaps in man forty-five drops), but it is possibly a sedative rather than a diffusible stimulant, as it abates the general temperature in certain cases to the extent of 2.5° Cent.; 2, it acts as an irritant when introduced into the cellular tissue; 3, it neither destroys nor neutralizes the virus of malignant pustule. A. V. H.

THE USE OF THE CATHETER AFTER URETHROTOMY (*Milit. Med. Jour.*, 1873, vol. cxviii. p. 37).—In six cases upon which Dr. Kadoski performed internal urethrotomy, he was prevented from introducing the catheter after the operation, as he had intended doing, and from the results which he attained he is satisfied that it is not necessary to use catheters or bougies in these cases until several days after the operation. He thinks that by thus postponing the introduction of these instruments the urethra escapes much irritation, and the patient much pain, and that there is no danger of the stricture which has been divided reuniting. W. A.

ONYCHIA MALIGNA.—Wilkomiski (*Mosk. Med. Ztg.*, 1873, No. 37) has used the nitrate of lead in cases of onychia maligna, with the best effects. All that remains of the diseased nail is to be removed with scissors, and the nitrate of lead, in substance, to be spread on the diseased surface, there being no necessity for the application of any bandage. The slough separates after a few days, leaving a clean surface, upon which a new nail forms. He describes five cases of the disease in each of which this application seemed to have a specific influence. W. A.

PHILADELPHIA
MEDICAL TIMES.
A WEEKLY JOURNAL OF
MEDICAL AND SURGICAL SCIENCE.

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PUBLISHED EVERY SATURDAY BY
J. B. LIPPINCOTT & CO.,
715 and 717 Market St., Philadelphia, and 25 Bond St., New York.

SATURDAY, SEPTEMBER 5, 1874.

EDITORIAL.

CORONERS' INQUESTS—SINGULAR VERDICTS.

THE loose and imperfect manner in which coroners' inquests are held in many parts of our country has often been the subject of just animadversion, both by the practitioner of medicine and the practitioner of law. When we call to mind the sort of *material* composing the great majority of coroners' juries, we need not be much surprised, but shall rather be amused, at some of their extraordinary verdicts; albeit these said verdicts do not reflect very creditably upon the medical man who is presumed to make the autopsy and to instruct the less-informed jury as to the true nature of the cause of the death.

Not very long ago a curious case of this kind occurred in the neighboring State of Delaware. A person died under very suspicious circumstances, strongly pointing to strychnia as the cause of death, and also indicating a certain individual as the homicidal agent. A post-mortem examination was made, but (as we are informed) no chemical analysis was instituted for the purpose of settling this all-important question. The adroit examiner, and the no less far-sighted jurors summoned on the inquest, arrived at the sapient conclusion—simply *from the inspection of the stomach*—that it was a case of *suicide!* Truly, a most comfortable conclusion for the suspected culprit.

About a month ago, a respectable man died very suddenly in this city, at Petry's restaurant, corner of Walnut and Broad Streets, being found in a dying state on his bed in the morning. From the circumstance that he had complained the evening previous of being in great trouble, it was very naturally conjectured that the deceased had committed suicide by poison; but no evidence of this was furnished from the surroundings, such as the discovery of any bottle, paper, etc. The *Evening Telegraph* of August 8 contains the following notice in reference to the matter: "Dr. Updegrove, who made a post-mortem examination of the body, testified that the appearances were of a negative character, as usual in cases of narcotic poisoning. The lungs were congested, and in the stomach was found an undissolved powder. Verdict, suicide by narcotic poisoning." Now, we are free to confess that we are far from being satisfied with this verdict, *based upon the above evidence.* If the paragraph from the *Telegraph* fully expresses the character of the post-mortem examination, we do not hesitate to condemn it as altogether imperfect and inconclusive. We hope, for decency's sake, as well as for that of justice and humanity, that the coroner's physician has been incorrectly reported. Surely, in a case of suspected narcotic poisoning the *brain* ought not to be omitted; yet nothing whatever is stated in reference to this all-important organ. The only pathological condition mentioned is congestion of the lungs. Now, this lesion may or may not accompany poisoning from morphia,—the alleged cause of the death; but assuredly no one is authorized to draw any positive inference from it. But the most curious point about the matter is the statement that "in the stomach was found an undissolved powder;" and then follows the verdict of the erudite jury,—"suicide by narcotic poisoning"!

We do not wish to be hypercritical, but, as we must presume that the "undissolved powder" was believed to be some salt of morphia (since it was termed a *narcotic* poison), we confess to being unable to perceive the logic of the conclusion arrived at. For, if we remember our chemistry aright, the salts of morphia are *soluble*, and would not be found after death in the stomach in the form of "an insoluble powder;" and, secondly, any medical man undertaking the very responsible office of determining the cause of death in a medico-legal case, and presuming to form any opinion under the circumstances without a thorough and exhaustive chemical analysis of what is simply described as "an insoluble powder," is guilty, to say the least, of gross carelessness, and of what in some countries would be called *criminal* recklessness.

We use strong language, but we speak advisedly

on this subject. It is our duty to hold up to deserved reprobation this system of loose and careless medico-legal examination, examples of which are continually presenting themselves before the public. Once satisfy a coroner's jury that the person is really dead, and the ascertaining of the true *cause* of the death is often a mere farce. An "undissolved powder" will unravel the mystery before one jury, while a simple "inspection of the stomach," as in the Delaware case, will enable another jury to determine the still more intricate question of homicide or suicide without the necessity of a trial!

CORRESPONDENCE.

THE UNIVERSITY AND HOSPITALS OF BERLIN.

To the Editor of the Philadelphia Medical Times:

As a medical centre, Berlin has held a very high position for many years. Within the last decade, however, as the city has rapidly increased in population and commercial prosperity, the government has, with its accustomed beneficence to public institutions, spared no expense or effort to make this the great intellectual centre of the nation, as Vienna is of Austria, and Paris of France. A new impetus has been given to every department of the university. Distinguished men in all departments of science and literature have been called from every section of the country to fill the chairs, until the corps of instructors now numbers nearly one hundred and fifty professors and associated teachers.

The university building, a very extensive edifice, is situated in the heart of the city, and upon its principal thoroughfare, the "Unter den Linden," on which are also the palaces of the emperor and royal family, nearly opposite.

Here are delivered the greater portion of lectures, on which about two thousand students are in attendance. As many as three thousand have matriculated here in one semester; but, owing to the high prices of living since the Franco-Prussian war, the number has very much diminished. As might be supposed, the majority of the medical lectures are delivered elsewhere, principally in the hospitals.

The course of medical instruction here, and in all the German universities, is very clearly fixed. Each student desiring to pursue the regular routine of studies must present testimonials of having passed the examinations of the gymnasium, which corresponds to our colleges. The course of instruction there is nearly the same as that in our schools, rather more attention being paid to the languages, and not so much to mathematics and the natural sciences. Having matriculated in the university, he spends the first two years in the study of anatomy, physiology, chemistry, and materia medica. Opportunities are always afforded for practical working in the chemical laboratory, but an attendance upon lectures is all that is absolutely required.

At the end of two years the student presents himself for examination upon the above branches, after which he is first known as a candidate for the degree of doctor of medicine. Not until then is he permitted to attend the clinics. Subsequently his course is much at his own disposal, and he can attend many or few lectures as his inclination prompts. He must, however, when he appears for examination at the end of the fourth year, show that he has attended lectures for eight semesters, and that for three semesters he has attended the various clinics.

There are some students with more money than brains, and more brains than they care to use,—more fond of the "kneipe" than of the clinic, and of the rapier than of the scalpel, preferring to pay homage to Bacchus rather than to Æsculapius,—who spend six, eight, and even ten years in some cases in the university before they appear for examination.

After the student has received the degree of doctor of medicine, he must then present himself for what is known as the "Statis examination" before he can receive license to practise. This examination is always necessary. A candidate may present himself for the Statis examination without having previously received the degree of doctor, and if his examination be satisfactory he may receive license to practise.

The principal hospitals here frequented by students are the Charité, the old municipal hospital, containing fifteen hundred beds, and the "Königliche Klinikum der Universität," containing about one hundred and five beds. The latter was intended originally to subserve a more simple purpose, as the name would indicate. Here are received only purely surgical cases, and none of those but the best which may serve for purposes of class-instruction, all others being sent to the Charité. There are also the Augusta and the Bethanien, containing respectively one hundred and two hundred and fifty beds,—both modern structures, and admirably arranged, but not visited by students, owing to their great distance from the university. Besides these, there is also the "Neue Allgem. Stadtkrankenhaus," or New Municipal Hospital, which is just completed, but not yet occupied.

A very great effort has been made to secure the most approved plans in the construction of the Bethanien and Augusta Hospitals. In the New Municipal Hospital the effort has been made to combine every improvement which experience has pronounced valuable, and the city has expended on its construction alone over one million dollars. The plan has been adopted of having a number of separate buildings at considerable distances from one another. Of these there are fourteen in all; twelve being designed exclusively for the use of patients,—six for those suffering from internal diseases, four for surgical cases, and two for contagious diseases.

The great fault connected with the management of this hospital is a law by the city authorities prohibiting

the use of the material found in its wards for the instruction of students. The great body of charity patients who now find a home in the Charité will naturally seek a place in an institution where they will not be exposed to the gaze of students and to that mystical scientific barbarity which is always supposed, by the ignorant, to be attendant upon hospital medical instruction. The Charité itself must thus lose in interest, if it be not entirely supplanted by such a rival, and medical students will find a more congenial field for study in other cities, whose authorities recognize and acknowledge the claims of science upon their hospitals.

Four-fifths of all the hospital instruction received by students here is given in the Charité.

Prof. Martin, in whose lectures I am especially interested, holds a high rank here as an obstetrician and gynæcologist. He superintends the gynæcological department of the Charité, and also has entire control of the "Königl. Entbindings Institut," or obstetrical department of the university. During the past week he has performed the operation of ovariotomy four times, making in all eight operations of this nature during the semester. Of his manner of performing the operation, and his general success, I may have occasion to speak another time.

G. WILDS LINN.

BERLIN, July 30, 1874.

REVIEWS AND BOOK NOTICES.

A PRACTICAL TREATISE ON THE SURGICAL DISEASES OF THE GENITO-URINARY ORGANS, INCLUDING SYPHILIS. By W. H. VAN BUREN, A.M., M.D., and E. L. KEYES, A.M., M.D. New York, D. Appleton & Co., 1874.

This handsome volume is an outgrowth of the later phase of teaching, in which each of the subdivisions of medicine has a separate exponent. It is doubtless a fair expression of what is taught of the above-named subjects at the Bellevue College; and a careful perusal has convinced us that they are taught well. We have rarely read better descriptions, or more detailed yet explicit directions for treating urethral stricture and all diseases pertaining to the bladder and associated parts. We have the judgment of the expert evident on every page. The anxiety to have each department well represented is shown in the chapters on the syphilitic diseases of the eye and ear, which have been written by well-known authorities on the affections of these organs. We cordially welcome the book, and trust and believe it will meet with success.

But we cannot resist the conclusion that a mistake has been made in including syphilis in a volume treating of diseases of the genito-urinary tract. We are informed in the preface that the book has been prepared because special subjects are either omitted or slurred over in the general text-books. Yet here, within a space of six hundred and sixty-six pages, four hundred and seventy-two are devoted to diseases of the genito-urinary system, leaving two hundred and ninety-four for the consideration of syphilis. For our part, we would rather have had the proportion reversed; or, what would have been still better in our judgment, the scope of labor enlarged, and a separate volume devoted to each subject. Apart from the meagreness with which many subjects pertaining to syphilis have been treated, such, for example, as the specific lesions of the nervous system, and hereditary syphilis, to say nothing of the provokingly elementary accounts of the syphiloderms as compared with the elaboration of the most insignificant affections of the penis, we object to the association on general grounds. What is it, we ask, that unites syphilis and diseases of the genito-urinary system? Nothing but the fact that the majority of primary sores are to be studied on the external genitals,—a fact not of first importance, compared to the fact of inoculation. The syphilographer is indifferent whether the chancre has appeared on the genitals or any other part of the body; and in questions of hereditary syphilis, and in transmission of secondary syphilis, the study of the primary lesion is of no value whatever. Nor do we understand why such remote subjects as urethral stricture or spermatorrhœa, and constitutional syphilis, should be treated together in a special text-book, unless, indeed, it be out of respect to certain rather ancient ideas,—ideas to which our authors have in no way committed themselves.

It is to be hoped that a certain carelessness in diction which mars portions of the book may be corrected in future editions. Our authors speak of a "type case" of atrophy of the bladder; of the "*cut-off*" muscles of the urethra; of involuntary ejaculations during sleep being nature's safety-valve (!); of a lymphatic (?) young man virgin (?!); of all antecedent venereal disease; and of inflammation of the glands of Cowper as *Cowperitis*. We are told that the bladder is "almost invariably *unique*;" that "lithotomy is respectable for its *longevity*;" that the "prognosis of tubercular prostatitis is *bad*;" that "a catheter passed into the bladder insures the *right of way* to the urine."

Such inaccurate and inelegant expressions are, unfortunately, heard too often in the amphitheatre, but are, to say the least of it, out of place in a text-book. H. A.

LES NEUROSES MENSTRUELLES. Par le DOCTEUR BERTHIER. Paris, A. de la Haye, 1874.

We have perused with some interest this treatise, which is, in fact, a compilation and comparison of cases recorded in medical literature already, with such comments upon them as to show their connection with and relation to excess, suppression, or irregularity of the menstrual flux. To these are added the views of the author on the physiology of the secretion and its intimate association with the condition of the nervous system, and on the subject of sympathy and reflex phenomena,—views which are correct so far as they go, but seem to us more like mere truisms than a statement of the actual status of our knowledge in this latter half of the nineteenth century. Perhaps they are necessary in the atmosphere of Paris, where the anatomico-physical school of thought has almost stifled the vitalist doctrines of Montpellier. "Truth crushed to earth will rise again," and from time to time there come to us utterances from Paris itself pointing to a consciousness on the part of the leaders of medical thought in that Vanity Fair that even in such apparently capricious things as congestions there is a force, an archæus, that obeys laws other than those of ordinary physics. To us in this country who have been taught to recognize this *vis insita*, there is much that seems like groping in the dark, and many "most lame and impotent conclusions" from facts such as those recorded in the present volume. And yet it is precisely such testimony that we need, coming from an entirely different point of view, to confirm our faith, which might otherwise be rudely jostled, not to say severely shaken, by the demonstration on the part of the physical-theory advocates of how many apparently pure mental phenomena are after all the result of purely physico-mechanical conditions. The cases cited by Berthier are not generally rare ones; there is hardly any practitioner of large

experience who will not be able to call to mind some similar ones which he has witnessed and perhaps not thought it worth while to record even in his private note-book. And yet, when they are thus arranged in proper sequence, we see how they prove by cumulative argument overwhelming in force the truth and importance of the influence reciprocally of the nervous system and the generative system upon each other. Nervous irritability and the "irritable uterus" are things which we would gladly consign to the limbo of the past; but, like Banquo's ghost, they will rise and confront us in the midst of our medical "feast of reason." Nor will they be laid until we learn that perverted, suppressed, or excessive function will and must lead first to functional, then to organic, disease; and that not only of the organ which is thus subjected to unhealthy influences, but of one or all of the others which are allied to it by those subtle, impalpable, and yet undeniable influences which we call "sympathies." Our medical predecessors, with their far inferior means of physical diagnoses, relied more upon these sympathies for their diagnosis and indications for treatment than we do, and mastered their meanings in a mode which is for many of us a "lost art." Which one of us is not rather disposed, for instance, to think of the tongue as deceitful above all things, in comparison with the means of information afforded by auscultation and percussion, by the thermometer and the ophthalmoscope? And yet our predecessors were grand old practitioners, and accomplished in their day cures as wonderful as some of those we boast of. If we look into their writings with the light of modern science to help us to understand clearly difficulties among which they groped darkly, we shall rise with a profound respect for the acumen which they display, and also with the feeling that there are many of those things in the science of medicine which our philosophy scarce dreams of as yet, in the solution of which we may gain much assistance, as they did, from the patient, laborious investigation of symptoms which now, unless we can correct them with or explain them by our present theories, we are too apt to ignore.

One other thought has suggested itself to us in perusing this volume. If nearly one-fourth of the life of women between fifteen and forty-five years of age is passed, as we know, in a condition which renders them liable to severe nervous disturbance, and if one woman out of every five (we fear an accurate statistical statement would make these figures nearer to two out of three) actually experiences such perturbation in her organism as to affect her power of active exertion, of untrammelled thought, of calm judgment in a greater or less degree, is there not in these facts the most convincing argument against the adaptedness of women as women for the exercise of such professions as, like our own, demand coolness, clearness of head, steadiness of hand and eye, and, above all, that all the faculties shall always be ready, at an instant's warning, for their fullest exercise? In other professions arrangements might be made to obviate the regular recurrence of the greater or less disability entailed by the menstrual epochs, but in ours it seems an obstacle that, lying in the nature of things as regards the woman of our day, is not likely to be overcome. J. C. M.

THE PHYSIOLOGY OF THE CIRCULATION IN PLANTS, IN THE LOWER ANIMALS, AND IN MAN. By J. BELL PETTIGREW, M.D., etc. London, Macmillan & Co., 1874.

The author's design in the arrangement of the contents of this volume is "to give a comprehensive account of the circulation and the apparatus by which it is effected in plants and animals." Judged by this standard, the book is disappointing. The descriptions of the circulation in plants are faulty and incomplete, and those of the lower animals are mere fragments, of no value whatever. The most elaborate work is devoted to the circulation of the vertebrata; and one may infer how far the author aids the student who reviews his "comprehensive account," when the batrachian and reptilian types of life are confounded.

The book will doubtless prove suggestive to the special student of physiology, who will be pleased with the author's observations on the heart's action, while he will justly esteem the chapter on the fœtal circulation, the mechanism of the valves of the vascular system, and the ganglia and nerves of the heart, as elaborate essays, valuable for reference.

The motive in publishing such a collection of a lecturer's memoranda has not been vouchsafed us by the author, nor do we profess to be familiar with the points of the canvass now pending for the chair of physiology in the University of Edinburgh. H. A.

THE PHYSIOLOGY OF MAN. By AUSTIN FLINT, Jr. Vol. V. New York, D. Appleton & Co.

This volume, embracing the subjects of the special senses and generation, completes the great work of Prof. Flint, and we congratulate him upon the completion of his task, and upon having added to American literature the most thorough and complete work on physiology in the English language. The preceding portions of this work have been noticed in this journal from time to time, as they appeared, and it seems scarcely necessary to present a detailed review of the present volume, in which the general tone and style of the previous volumes of the work are well maintained. The completed work of Prof. Flint is too large for use as a text-book, but is par excellence *the* book for those practitioners who wish to keep themselves upon the level of the day in regard to the great sciences which underlie the practice of medicine.

GLEANINGS FROM OUR EXCHANGES.

PERCHLORIDE OF IRON IN POST-PARTUM HEMORRHAGE.—Dr. Lombe Atthill, in a paper read before the Dublin Obstetrical Society, states that he has arrived at the following conclusions:

1. That cases of post-partum hemorrhage occur in which the injection of the perchloride of iron or some similar styptic is alone capable of arresting the hemorrhage.

2. That the injection of such styptic does not necessarily increase the tendency which exists in such cases to the occurrence of pyæmia, septicæmia, or peritonitis.

3. That this treatment is specially applicable to anæmic patients.

4. That while it should never be had recourse to unnecessarily, it should not, on the other hand, be delayed too long.

ANEURISM OF THE LEFT SUBCLAVIAN ARTERY CURED BY DISTAL LIGATION (*The Western Lancet*, July, 1874).—In a case of subclavian aneurism of a year's standing, attended with partial paralysis of the left arm from pressure on the brachial plexus and great anæmia due to pressure on the thoracic duct, Professor Toland decided to perform the distal operation, and the artery was tied at its exit from the axilla. The pulsation in the tumor was immediately lessened, and gradually decreased up to the sixth week from the date of the operation, after which no bruit or pulsation could be discovered. The tumor grew smaller, the collateral circulation became fully established, the paralysis almost entirely disappeared, and the patient gained considerably in weight.

AMYLOID AND FATTY LIVER IN RELATION TO OPERATIONS (*The Lancet*, August 8, 1874).—Mr. Richard Barwell details two cases of hip-disease in children, which had been attended with prolonged suppuration, and in both of which a cachectic condition had ensued, attended with extreme enlargement of the liver. Operations for the relief of the joint-trouble—in the one case amputation at the hip, in the other excision of necrosed bone—were both followed by great improvement and subsequent recovery, *with a gradual return of the liver to its normal size.*

We often see in such cases as these, where free suppuration has existed for a long period, a uniform increase in the size of the liver, which does not affect by pressure or obstruction the portal circulation, since it is not accompanied by ascites; and, though it may diminish, it does not annihilate the secreting function of the gland, since the fæces are colored with bile, and since there is no jaundice.

This enlargement is due to the deposition in the constituents of the organ either of oil-globules (the fatty liver), or of a material called amylaceous (the amyloid or lardaceous liver).

Now, in healthy life fat is frequently present in and is often removed from the liver. It is therefore plain that recovery from its morbid accumulation in that organ is a much more easy process, a far more likely event, than restoration to the normal condition of a liver infiltrated with so immobile a material as that which constitutes the amyloid deposit.

Amyloid liver may be suspected if the organ attains a very large size, if there be obstinate and recurrent diarrhœa, with cast-off villi in the excreta but no pus or sign of ulceration, or if there be albumen in the urine.

If, after careful investigation on these points, the absence of any sign of amyloid disease save the enlargement of the liver be determined, any operation for the removal of suppuration is not only justifiable, but our imperative duty. Without operation the patient must die; after operation, however hard, large, and changed be the liver, there is a fair, indeed a considerable, chance of recovery.

Mr. Barwell believes that in both his cases there existed amyloid disease of the liver, although he admits that he is unable to prove absolutely his position, and that the whole balance of opinion is that amyloid disease once commenced is of necessity a progressive and fatal malady.

RABIES MEPHITICA.—Rev. Horace C. Hovey, of Kansas City, Mo., writes to the *American Journal of Science and Arts* concerning a fatal disease which is communicated by the bite of the skunk, and which bears certain resemblances to hydrophobia. The rabid skunk seems to have exhausted his mephitic battery, or else has lost the projectile force by which it is discharged. Perhaps the secretion has been checked by the feverish state of the system; or there may be a causative connection between the inactivity of the anal glands and the generation of malignant virus in the glands of the mouth.

The writer, having had his attention called to the disease by an encounter with a skunk, and by the statement of an experienced hunter that the bite of the animal is invariably fatal, opened a correspondence with hunters, taxidermists, surgeons, and others, and obtained the particulars of forty-one cases of *rabies mephitica* occurring in the Western and Southern States. All were fatal except one. Drs. Janeway and Shearer, Surgeons U.S. Army, reported several cases which resulted fatally from the bite of the skunk. Dr. Shearer wrote that he regarded the virus as peculiar to the skunk, as the venom of the rattlesnake is to that creature, and not an occasional outbreak, as in the case of the wolf or the *rabies canina*. From this opinion, however, Mr. Hovey dissents.

The attack of the rabid skunk is entirely different from the fierce assault of a mad dog. He approaches stealthily while his victim is asleep, and inflicts a deadly wound on some minor member,—the thumb, the little finger, the lobe of the ear, one of the alæ of the nose.

The resulting disease resembles hydrophobia more than it does the effects of ophidian venom. The period of incubation is alike in *R. canina* and *R. mephitica*. It is indefinite, ranging from ten days to twelve months. During the incubative stage, no perceptible change takes place in the circulation.

The spasms of the larynx and œsophagus which occur in *R. canina* are wanting in *R. mephitica*. Nor is the hyperæsthesia of the skin which is so marked in the former disease present in the latter. In hydrophobia the perceptions are intensified, but in mephitic rabies there is a positive loss of perception and volition.

The mode of death is by anæsthesia in both forms of rabies; but in that of the dog the frightful struggles of nature to eliminate the poison are more prolonged than in that of the skunk.—*Boston Medical and Surgical Journal.*

THE ACTION OF STIMULANTS (*The Practitioner*, August, 1874).—Dr. James Ross defines stimulants to be "those agents which determine the living tissues to energize, no matter what the form of evolved energy may be, whether it be heat, electricity, secretion, growth, nerve-force, or contraction." Careful observation shows that by far the greater number of the agents used as medicines act by first stimulating one or other of the tissues of the body to expend energy in some form; and when this action is continued, the second effect is to incapacitate the tissue for further action. The maxim, however, that effects are proportional to their causes is frequently and wrongly assumed to be applicable to stimulants and their effects. We ought to be extremely careful in inferring that because a certain dose of a medicine produces a particular action, an increase or decrease of the dose will produce corresponding variations of the effect. In the experiments of the Edinburgh Committee on the action of mercury it was assumed that because a large quantity of the drug diminished, or did not increase, the quantity of bile, *a fortiori* a small dose cannot augment its flow. The inferences from these experiments are vitiated by the neglect of the relation which subsists between the primary and secondary action of a drug and the opposite effects produced by large and small doses. The facts that a strong dose of curara destroys the irritability of the motor nerves while a feeble dose increases it, that a strong dose of alcohol stupefies the brain while a small dose excites it, and that this relation is found to exist between large and small doses of stimulants of all orders, afford good presumptive evidence that since large doses of mercury diminish the biliary secretion, small doses will be found to increase its flow.

TUBERCULAR SPINAL MENINGITIS WITH DEPOSIT OF TUBERCLE IN THE LIVER AND PERITONEUM (*The Indian Medical Gazette*, July 1, 1874).—Surgeon-Major J. Wise reports a case of tubercular deposit in the meninges of the cord, attended by choreic disturbances, great hyperæsthesia of the surface, active delirium, paralysis of the legs, peritonitis, and a fever, which at first assumed a regular remittent, and then an intermittent, form.

At the autopsy, in addition to the tubercles found in the spinal membranes, the capsule of the liver was found to be studded with them, and the whole of the peritoneal covering of the bowels was infiltrated with hard miliary tubercles.

THE INDUCTION OF PREMATURE LABOR (*British Medical Journal*, August 8, 1874).—Dr. J. G. Swayne reports twenty cases of the induction of premature labor, and describes the method which he prefers, as follows. The patient being in the ordinary obstetric position, the fore and middle fingers of the left hand, well oiled, are to be passed up to the os uteri externum, which is generally sufficiently open to admit the point of one, and sometimes even of both, fingers. A small-sized sponge-tent, about the size, for instance, of an ordinary radish, is to be mounted on a proper stilette, made for the purpose, and passed along the groove between the fore and middle fingers of the left hand, until its point is inserted into the os uteri. The tent is then to be pushed on until a very little of it, not more, perhaps, than a quarter of an inch, projects into the vagina beyond the os uteri. If the os be so high that it cannot well be reached by the finger, the tent may be inserted through a full-sized tube speculum. If also it be very little open, a tangle-tent may be found more convenient to begin with. Care should be taken to push the tent up sufficiently far, as it should be remembered that, two months or so before delivery, there is often a considerable interval between the os uteri externum and internum; otherwise the tent may not pass through the os internum. After the tent is introduced, a piece of soft silk handkerchief may be passed up as a plug to keep it *in situ*. On the day following, this tent should be removed, and a large one inserted, and, on the next day, a tent of the largest size. Generally two, or at most three, tents are required to complete the full dilatation. At this time, probably, labor-pains will set in regularly, and the membranes will rupture. Should this not be the case, the membranes may be punctured, and the most convenient instrument for this purpose is a gum elastic male catheter, of which the end has been cut off, so that the stilette can be protruded at pleasure. Should the pains still be weak or ineffectual, ergot may be given.

The tents employed should be impregnated with carbolic acid.

DIAGNOSTIC POINTS IN CEREBRAL DISEASE (*Buffalo Medical and Surgical Journal*, June, 1874).—From recent investigations into the physiological functions of the brain, Dr. H. R. Bigelow concludes—

1. That grave cerebral lesions may exist without characteristic semeiology.
2. That slight lesions may occasion a train of symptoms indicative of serious organic disease.
3. That a paralysis is caused by the irritation transmitted by the cerebral lesion, inhibiting certain functional actions, and not by the mere circumscribed pressure.
4. That a lesion in the middle line, *i.e.*, affecting both sides of the optic thalami, corpora striata, etc., may produce paralysis of but one side of the body.
5. That a paralysis may exist on the same side with the lesion.
6. That unilateral convulsions are much oftener associated with lesion of the right brain than with lesion of the left.
7. That hysterical paralysis, etc., depends oftenest upon disorganized action of the right brain.
8. That aphasia, agraphia, a mechanical impairment of speech, and mental alienation, are usually associated with disease of the left brain.
9. That the right brain is more capable than the left of producing a paralysis on the same or on the opposite side of the body.
10. Optic neuritis as a cause of amaurosis depends more often on a disease of the right brain than on disease of the left.
11. The symptoms may indicate a double lesion when one is present, and conversely.

POPLITEAL ANEURISM (*British Medical Journal*, August 8, 1874).—Professor Holmes has come to the following conclusions in reference to the treatment of popliteal aneurisms:

1. Rapidly-growing aneurisms, with a thin or imperfect sac, are best treated by immediate ligature, especially when caused by recent violence; and the success of compression is doubtful in aneurisms growing towards the knee-joint, and in all others which advance rapidly.
2. The Hunterian ligature has been about twice as successful in modern hospital practice as the results of the accepted statistics show it to have been.
3. The results of the compression-treatment have given as yet about the same average results as those of the ligature; but these results might be much improved by a more careful employment of the method.
4. Too long persistence in compression is to be deprecated, as being likely to interfere with the success of the ligature.
5. Flexion is often successful when used so as not to distress the patient, and is worthy of a trial in all cases in which it stops or materially checks the pulsation, but should not be long persisted in when it is not at once beneficial.
6. We have no evidence showing the utility of or the need for the less usual forms of treatment, such as galvanism, coagulating injections, manipulation, temporary ligature, or the introduction of foreign bodies.

UTERINE FIBROID TREATED HYPODERMICALLY BY ERGOTIN (*The American Practitioner*, August, 1874).—Dr. George Cowan reports the case of a woman, æt. 40, who presented herself for treatment of a fibroid tumor of the uterus, which had originated eight years previous. There were obstinate constipation, uterine tenesmus, swelling of the feet, and pains and numbness in the right leg and side. At the most prominent point of the abdomen she measured thirty-six inches in circumference. The abdominal walls were smooth and shining, and seemed stretched to their utmost. For two weeks one and a half to two grains of ergotin in twenty minims of distilled water were injected daily into the subcutaneous tissue of the abdomen, with the following results: the greatest circumference was reduced to twenty-eight and a half inches; the bowels had acted daily for several days, freely and without the use of medicine; the abdominal walls were greatly relaxed; the presence of several tumors instead of a single one was detected; and the patient much improved in health, strength, and spirits. The treatment being interrupted, she returned to her former condition, but on recommencing the injections she again greatly improved, and is now relieved of nearly all the most distressing symptoms.

Dr. T. Parvin records (*American Practitioner*, May, 1874) three cases of uterine fibroid in which marked benefit followed the use of this method. Dr. A. Reeves Jackson reported to the Chicago Society of Physicians and Surgeons (*Chicago Medical Journal*, June, 1874) five cases, in three of which the results were decidedly favorable. Five other cases were reported at the same time, in all of which the results had been beneficial.

CHLORALUM IN CHOLERA.—The internal use of chloralum in cholera is highly recommended by Dr. Henry Blanc, surgeon in the Indian army. His mode of administration was, one part of liquid chloralum to twenty-five parts of water, an ounce of the mixture to be given every half-hour; also an enema containing sixteen ounces of the mixture to be administered every hour. Undiluted chloralum sprinkled on and around the bed. Remedy given less frequently as the reaction became more completely established.—*St. Louis Med. and Surg. Jour.*, July, 1874.